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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ZIA, SYED	

ART UNIT	PAPER NUMBER
2131	

DATE MAILED: 07/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/451,196	MANIAN ET AL.	
	Examiner	Art Unit	
	Syed Zia	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to request for reconsideration, and amendment filed on May 13, 2005. Original application contained Claims 1-31. Applicant previously amended Claims 1, 2, 5,6, 9, 10, 13,14, 17, 18, and 25-28. Applicant currently amended Claim 17. The amendments filed on October 07, 2004 have been entered. Therefore, presently pending claims are 1-31.

Response to Arguments

The arguments filed on May 13, 2005 have been entered and made of record. Applicant's arguments have been fully considered but they are not persuasive because of the following reasons:

2. Regarding claim 1, 9, 17, and 25 applicants argued that the cited prior art (CPA) [Bergantino et al. (U. S. Patent 6,359,891)] does not disclose, *"a hardware schedule table to schedule connections of traffic in a network having entries corresponding to connections, N logical schedule tables created from hardware schedule table, N logical schedule tables being separated by table delimiters and operating independently of one another, each of the table corresponds to at least one unused entry in the hardware schedule table, and identifier being assigned to an unavailable entry separating the N logical schedule tables".*

This is not found persuasive. CPA teaches and describes method consists of asynchronous transfer mode cell processing in communication system processing cells at high-

speed, and simultaneously providing flexibility of programmable device, also being transparent to ATM standards change. Asynchronous Transfer Mode (ATM) system of cited prior art, a group of bits comprises a primary scoreboard, indicating the scheduling status of cell time-slots in a periodic cell container, with each bit indicating the availability of a corresponding time-slot. A *connection Identifier (ID) table* is maintained with each location corresponding to one of the time-slots, and hence to a single primary *scoreboard* bit. Furthermore, in the system of cited prior art a cell scheduling instruction specifies a connection Identifier for a Virtual Connection on an ATM transmission link (120). A processor searches the primary scoreboard to find (126) an available cell time-slot bit, then reserving the located slot by setting the corresponding bit (128). The connection Identifier is stored (130) in the corresponding location in the connection Identifier table. Therefore, as a result, the system of cited prior art cell scheduling/servicing techniques and architecture in ATM communication processing system operating at high-speed does implement a system to schedule traffic in network using logical schedule tables (col.16 line 50 to col.17 line 7 to line 35, and col.23 line 23 to line 32).

Applicants clearly have failed to explicitly identify specific claim limitations, which would define a patentable distinction over prior arts.

Therefore, the examiner asserts that cited prior art does teach or suggest the subject matter broadly recited in independent Claims 1, 9, 17 and 25. Dependent claims 2-8,10-16, 18-24, and 26-31 are also rejected at least by virtue of their dependency on independent claims and by other reason set forth in the this office action.

Accordingly, rejections for claims 1-31 are respectfully maintained.

Claim Objections

Previous objection regarding Claim 17 has been withdrawn.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Bergantino et al. (U. S. Patent 6,359,891).

3. Regarding claim 1, Bergantino teach and describe a method to schedule connections of traffic in a network (Fig.1-2, col.16 line 33 to line 19) comprising:

creating N logical schedule tables [i.e. entries for each virtual connection] from a hardware schedule table *(also known in the art as Scoreboard. Refer page 5 line13 of Applicants' disclosure)* (col.17 line 18 to line 21) having entries corresponding to connections (connection Ids of item110) [i.e. assigning and linking multiple virtual connection request for slots, implemented in network processor (Fig.1A item 12)], the N logical schedule tables being separated by table delimiters and operating independently of one another, each of the table

delimiters corresponding to at least one unused entry in the hardware schedule table (col.17 line 23 to line 35); and

assigning an identifier to an available entry in one of the N logical schedule tables, the identifier corresponding to one of the connections in the network (col.16 line 50 to line 60, col.17 line 7 to line 13, and col.23 line 23 to line 32).

4. Regarding claim 9, Bergantino teach and describe a computer program product (Fig.2, col.13 line 2 to line 4) comprising

- a computer usable medium (col.12 line 4 to line5) having computer program code embodied therein to schedule connections of traffic in a network, the computer program product having (Fig.1-2, col.16 line 33 to line 19): computer readable program code for creating N logical schedule tables [i.e. entries for each virtual connections] from a hardware schedule table *(also known in the art as Scoreboard. Refer page 5 line13 of Applicants' disclosure)* (col.17 line 18 to line 21) having entries corresponding to the connections (connection Ids of item110) [i.e. assigning and linking multiple virtual connection request for slots, implemented in network processor], the N logical schedule tables being separated by table delimiter and operating independently of one another, each of the table delimiters corresponding to at least one unused entry in the hardware schedule table (col.17 line 23 to line 35); and

computer readable program code (col.20 line 16 to line 19, and col.29 line 47 to line 48) for assigning an identifier to an available entry in one of the N logical schedule tables, the identifier corresponding to a connection in the network (col.16 line 50 to line 60, col.17 line 7 to line 13, and col.23 line 23 to line 32).

5. Regarding claim 17, Bergantino teach and describe a system (Fig.1-2, col.16 line 33 to line 19):

a network interface bus (Fig.1A, item 16);

a physical interface device coupled [i.e. UTOPIA port] to the network interface bus to request a connection by an identifier (col.8 line 20 to line 34); and

a network processor (ATM Cell processor item 12) coupled to the network interface bus having at least a hardware schedule table to schedule connections of traffic in a network and N logical schedule tables [i.e. entries for each virtual connections] created from the hardware schedule table *(also known in the art as Scoreboard. Refer page 5 line13 of Applicants' disclosure)* (col.17 line 18 to line 21), the at least hardware schedule table having entries corresponding to the connections (connection Ids of item110) [i.e. assigning and linking multiple virtual connection request for slots, implemented in network processor], the N logical schedule table being separated by table deciliters and operating independently of one another, each of the table delimiters corresponding to at least one unused entry in the hardware schedule table(col.17 line 23 to line 35), the identifier being assigned to an available entry in one of the N logical schedule tables (col.16 line 50 to line 60, col.17 line 7 to line 13, and col.23 line 23 to line 32).

6. Regarding claim 25, Bergantino teach and describe a system (Fig.1-2, col.16 line 33 to line 19) comprising:

a processor (host CPU, item 14);

a network processor (ATM Cell processor item 12) coupled to the processor (host CPU, item 14), the network processor having a scheduler for scheduling connections of traffic in a network using a hardware schedule table (Fig.1-2, col.16 line 33 to line 19); and

a memory (system memory item 18) coupled to the processor to store a program, the program when executed by the processor (Fig.2, col.13 line 2 to line 4) causing the processor to:

create N logical schedule table [i.e. entries for each virtual connections] from the hardware schedule table *(also known in the art as Scoreboard. Refer page 5 line13 of Applicants' disclosure)* (col.17 line 18 to line 21), the N logical schedule table being separated by table delimiters and operating independently of one another, each of the table delimiters corresponding to at least one unused entry in the hardware schedule table (col.17 line 23 to line 35, and

assign identifier to an available entry in one of the N logical schedule tables, the identifier corresponding to one of the connections in the network (col.16 line 50 to line 60, col.17 line 7 to line 13, and col.23 line 23 to line 32).

7. Claims 2, 4, 10, 12, 18, 20 and 26 are rejected applied as above in rejecting claims 1, 9, 17 and 25. Furthermore, Bergantino teach and describe scheduling network traffic using multiple logical schedule tables, wherein:

- total size if the N logical schedule tables is equal to size of the hardware schedule table (col.17 line 33 to line 40);

- determining if a first entry requested by the network for the identifier is occupied; and assigning the identifier to a second entry if the first entry is occupied, the second entry being available for occupancy (col.19 line 45 to line 65).

8. Claims 3, 5, 6, 11, 13, 14, 19, 21, 22 and 27 are rejected applied as above in rejecting claims 2, 4, 10, 12, 18, 20 and 26. Furthermore, Bergantino teach and describe scheduling network traffic using multiple logical schedule tables, wherein:

- each of the N logical schedule tables corresponds to a class of service [i.e. shaping requirement through network interface item 16] (col.20 line 65 to col.21 line 5);

- assigning the identifier to the first entry if the first entry is available for occupancy (col.19 line 45 to line 65);

- assigning the identifier to a third entry if the second entry coincides with one of the table delimiters, the third entry being a next available entry found from a beginning of the N logical scheduling table (col.26 line 60 to col.27 line 10);

- the scheduler assigns the identifier to a second entry if a first entry requested by the network for the identifier is occupied, the second entry being available for occupancy (col.19 lin3 45 to line 65).

9. Claims 7, 15, 23, and 28 are rejected applied as above in rejecting 5, 14, 22 and 27. Furthermore, Bergantino teach and describe scheduling network traffic using multiple logical schedule tables, wherein, comprising:

- the network is an asynchronous transfer mode (ATM) network (Fig. 1A, system 10).

- assigning the identifier to a third entry if the second entry coincides with one of the table delimiters, the third entry being a next available entry found from a beginning of the scheduling table (col.26 line 60 to col.27 line 10);

10. Claims 8, 16, 24 and 29 are rejected applied as above in rejecting 6, 15, 23 and 28. Furthermore, Bergantino teach and describe scheduling network traffic using multiple logical schedule tables, wherein:

- the identifier is a virtual channel identifier (Fig.4, identifier (ID) Table 110);

- the network is an asynchronous mode transfer (ATM) network (Fig. 1A, system 10).

11. Claim 30 are rejected applied as above in rejecting 29. Furthermore, Bergantino teach and describe:

- the identifier is a virtual channel identifier (Fig.4, identifier (ID) Table 110).

12. Claim 31 is rejected applied as above in rejecting claim 30. Furthermore, Bergantino teach and describe an ATM processing device, comprising:

- the network processor is a segmentation and reassembly processor (col.23 line 63 to col.24 line 3).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed Zia whose telephone number is 571-272-3798. The examiner can normally be reached on 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
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sz
July 14, 2005